

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference JST-119-PCT		FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2004/009149	International filing date (day/month/year) 29.06.2004	Priority date (day/month/year) 30.06.2003	
International Patent Classification (IPC) or national classification and IPC			
Applicant JAPAN SCIENCE AND TECHNOLOGY AGENCY			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))</p> <p>_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																									
<p>4. This report contains indications relating to the following items:</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>		<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-8 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 7-10, 13, 14, 18-21 as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 15, 16 received by this Authority on 10.11.2004
- nos.* 5, 6, 12, 17 received by this Authority on 20.10.2005
- ☒ the drawings:
- sheets fig. 1-5 as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☒ the claims, nos. 1-4, 11
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☒ the claims, nos. 8, 9, 13, 14
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	5-10, 12-21	YES
	Claims		NO
Inventive step (IS)	Claims	6-10, 18, 21	YES
	Claims	5, 12-17, 19, 20	NO
Industrial applicability (IA)	Claims	5-10, 12-21	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP 1-209884 A (Fujitsu, Ltd.), 23 August 1989, page 4, lower right column, line 14 to page 4, upper left column, line 3

Document 2: JP 5-225933 A (Mitsubishi Heavy Ind. Ltd.), 03 September 1993, paragraphs [0010] to [0011]

Document 3: JP 2003-85542 A (Neucore Tech. Inc.), 30 March 2003, paragraphs [0010] to [0022]

Claims 5, 12 and 17

Document 1 (page 4, lower right column, line 14 to page 4, upper left column, line 3) discloses an imaging method whereby the image that is formed upon a microchannel plate by means of a pinhole is then captured by means of an imaging element via an image formation lens.

In addition, document 2 (paragraphs [0010] to [0011]) indicates that it is possible to visualize radial rays such as X-rays by means of a microchannel plate and a fluorescent plate; therefore, it would have been easy for a person skilled in the art to conceive of employing

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

the microchannel plate and the fluorescent plate that are disclosed in document 2 in order to visualize the radial rays in the invention that is disclosed in document 1.

In addition, the technical feature of using a computer in order to correct the lens-generated spatial distortions in the image data is well known, as disclosed in document 3 (paragraphs [0010] to [0022]) for example.

Claims 13, 14, 19 and 20

A person skilled in the art could set the diameter of the pinhole and/or the distance between the pinhole and the imaging surface in the inventions that are disclosed in documents 1 to 3, as appropriate.

Claims 15 and 16

A person skilled in the art could set the length of the vacuum container in the invention that is disclosed in document 2 (paragraphs [0010] to [0011]), as appropriate.

Claims 6 to 10, 18 and 21

The feature wherein the "intermediate wave motion conversion unit comprises a wave motion conversion surface that has a calibrating lattice pattern," which is set forth in claims 6 and 18, and the feature whereby the "distortions that are generated by the spatial image formation system, which comprises a wave motion conversion surface with a calibrating lattice pattern, and the image formation system, which comprises a lens, are automatically corrected by means of a computer," which is set forth in claim 21, are not disclosed in any of the documents that are cited in the international

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search report, and would not have been obvious to a
person skilled in the art.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box I

The amendment forms that were received on 20 October 2005 amend claim 8 so as to set forth the "method for forming and capturing an image by means of a combination of an open hole and a two-dimensional imaging device which is set forth in claim 6, said method for forming and capturing an image by means of a combination of an open hole and a two-dimensional imaging device being characterized in that the diameter of the aforementioned open hole is enlarged and the distance between the aforementioned open hole and the image formation surface of the intermediate wave motion conversion unit is configured so as to be sufficiently long in relation to the diameter of the intermediate wave motion conversion unit." However, the international application as originally filed does not make any specific disclosures with regards to the relationship between the "diameter of the intermediate wave motion conversion unit" and the "distance between the open hole and the image formation surface of the intermediate wave motion conversion unit." As a result, the amendments in question can be considered to add a new feature.

The same is true with regards to the disclosures indicating that the "distance between the aforementioned open hole and the image formation surface of the intermediate wave motion conversion unit is configured so as to be sufficiently short in relation to the diameter of the intermediate wave motion conversion unit" in claims 9 and 14, and the disclosure indicating that the

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Supplemental Box

"distance between the aforementioned open hole and the image formation surface of the intermediate wave motion conversion unit is configured so as to be sufficiently long in relation to the diameter of the intermediate wave motion conversion unit" in claim 13.

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